



## **Humanitarian aspects of innovative economy in Russia**

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Today in the modern world international organization "GLOBELICS" promotes the formation of innovative economy. The role of the organization for the whole world community is difficult to overestimate while it scientifically proves the necessity for the evolution development not only for the economy, but also for the whole mankind. In our opinion network "GLOBELICS" gains the idea that the world research efforts should reflect not only national interests, but also interests of the whole society (when the possible natural and man-caused catastrophes are taken into account). That is why a system of research development where all the problems are distinguished should be created. This system must be directed to the results of realization of national innovative system projects.

It is important to estimate the role of "GLOBELICS" for Russia: the conferences and meetings organized in frames of "GLOBELICS" have aroused the process of comprehension of several problems namely the formation and development of national innovative system in Russia according to evolution theory approach in economics. Theoretical, organizational, design works referred to research work in frames of network "GLOBELICS" have begun. The 5-th International conference «GLOBELICS - RUSSIA – 2007: Regional and National Innovation Systems for Development, Competitiveness and Welfare: the Government-Academia-Industry Partnership (theory, problems, practice and prospects)” was an important event in scientific life. The results of this conference in a form of recommendation to Saratov state technical university (SSTU) to create the Russian branch of international research network "GLOBELICS ", have allowed to comprehend the results of long-term work of the Russian scientists especially the work of SSTU scientists according to the evolution theory approach to the economic changes that occur in the newest history of the world community, in context of evolution economy problems as it was determined by one of the leading economists – Richard Nelson (USA)<sup>1</sup>.

In the newest history Russia has got an experience of the economy of two kinds - planned and liberal. The planned economy was based on a strict regulation of production of goods of individual and public needs on a rational basis of labor management. A public product was created by labor and the distribution of this product was centralized and organized strictly according to the plan. Thus it turned out, that for someone was planned something he did not need and on the other hand

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<sup>1</sup> Richard R. Nelson and Sidney G. Winter. *An Evolutionary Theory Jf Ecjnjmic Change/* Cambridge University Press. 1990//

was not planned something he needed. So there is no demand for such product and also the labor for the production is wasted. There is a need for selection theory of planned indices that could be objective and subjective. The political doctrine accepted and fulfilled in the country influences the planning criteria. The planning of all aspects of life predetermines for a long-term period some absolute points beforehand. Thus the moment of uncertainty as one of the major stimulus of development disappears. As result the person is alienated from the economy as it grows into the self-sufficient sphere of social being. The main point is that the programming of planned life restrains creativity according to established standards, incentives and other factors limited by frameworks of such plan. These plans can be very rational for the country, but far from interests of individuals and then they could not be carried out. In order to be realized there is a need for a certain socio - psychological atmosphere in a society which forms socio - personal aims at achievement of planned targets and characteristics. On the other hand, the person cannot live without a prospect, without guarantees for the certain future. A person without any prospects loses sense of life and the process of irreversible degradation of a person begins if the society does not leave an opportunity for search of new meaning of life on a higher level. Thus, as we believe, planning should have the certain limits. Within such limits a person should be capable to realize his/her creative potential for the sake of evolution of the whole society.

The liberal economy assumes full voluntarism in a choice of the vital purposes, ideals and intentions. Thus the majority according to the fundamental law of "minimax" uses all the skills (physical, vital and intellectual) to personal enrichment by all means, basically adjoining with criminal. In a society the socio - psychological atmosphere of the permissiveness is created, that induces a search to overcome the existing laws on a way to the unlimited enrichment. The more restrictive laws have passed, the sharper methods to overcome them are used. As the society goes this way little by little it loses its "humanism (dispossession of a person)" so that a person grows into an animal and loses his/her mental and moral values of a human being.

For the society it is important to create several institutes in order to neutralize these tendencies. A lot of people are involved in such institutes as result a numerous group of social parasites appears. They do not produce but on the other hand restrain the initiative directed on enrichment. Like in planning the creative human potential is not used fully according to the interests of a society, is spent and lost, restraining and complicating the evolution process.

The innovative economy organized on the basis of the evolution theory, could turn out to be capable to eliminate the defects of both planned and liberal economy. The basic evolution task of such economy is to awake, intensify and accelerate the synergetic processes in a society by stimulating the incentive of person's creative self-realization which is supported by the adjusted society that has chosen an evolutionary way of the development. The innovative economy presumes the formation and development of innovative systems. Behavior of such systems is based on strategic planning not only of the economy, but evolution of the society. The main features of the innovative economy - strategic plans for development of innovative systems and freedom of creative self-realization of each person according to the interests of a

society that meet the interests of the developing person. The modern innovative economy should be oriented on the integration of all the major social institutes of a society not to increase the profit while it can influence many members of a society negatively, but along with the interests of sustainable development of each person and a society as whole as a rational way of a community.

The way of industrial development that was historically chosen by the mankind exhausts itself as a rational one by now due to negative consequences that influence the psycho-evolution of a man and his prospects. Absolute priorities of the industrial production established due to natural propensity to consume are intensified by the ideological propaganda device of a postindustrial society. They serve as a reason of unification and standardization of an individual and transform an individual into a component of a global consumption - production system that dominates a person and absorbs it. This system exists and develops rapidly according to its own laws. The basic feature of a modern society is that it builds the artificial world, transforming the natural world and a person into artificial constructions.

The industry of the advanced countries operates continuously in physical time and in a steady rate of acceleration of tempo-rhythmic characteristics of production of goods. The world industrial system longs for formation of an integral industrial space where all the processes are synchronized with one source of a rate - rhythm. Machinelike qualities of the industrial space cause an artificial pace of labor thrust to an individual that is opposed to a natural way of life.

As a result a person finds him/herself in the artificial world. It is important for a person to keep him/herself and to realize his/her personal qualities and abilities by following his vocation and destination. Finally, the artificial world created by a society operates as a slot-machine (probably in the nearest future it is going to be a self-programmed machine), and a man becomes its appendage, entirely and completely dependent on this slot-machine. Basis of the existence and material welfare of a modern private-owner capitalist society which implements an industrial way is formed by global process and status of a society – consumption. Without the consumption it is helpless and condemn to destruction. Therefore a corresponding socio-psychological atmosphere is formed in a society. Unification of an individual due to learning the required sample of a personality needed for the given society occurs here.

The future of a civilization depends on the synthesis of economy, morality, politics, natural sciences and the humanities, that determine an ideology of purpose and way of life. The major criteria for the sustainable development of a modern society should be: innovative sense and way of life of a society, an orientation to the innovative development and the creation of highly ecological technologies in order to maintain the public well-being. Under such circumstances the necessity for the foundation of a new integrative science - innovatics (similarly to cybernetics, computer science, synergetic) arises. The point is that according to the fundamental laws of a world order<sup>2</sup> prosperity of a society is possible only when it exists in a way of the development. It explains the demand for innovatics in a modern society when special

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<sup>2</sup> Ponukalin A.A. Humankind: the prospective directions of research // The Bulletin of the Saratov state technical university, - №1, 2004. - With. 137-150.

role is given to the administrative strategies on all the levels of national and regional innovative systems under conditions of growing knowledge-based competition of global innovative systems. That is considered to be a field of studies of the Saratov scientific school of innovatics.

Innovatics represents an area of knowledge of the subjective and objective nature of the social evolution forces. Spontaneous genesis of the society that is not based on this knowledge, represents a danger to the exhaustion of vital resources therefore it can lead to a possible ecological (in a broad sense) disaster. Within the framework of paradigm of the universe and the world order the system of regulators of evolutionary processes in a society is considered to be a research object. The research subject is the mechanism of public force evolution development. Thus the basic theoretical task of innovatics is to elaborate the overall concept of social development as a component of Universal world process. The main practical task is to create objective in contents and human in forms methods of practical realization of such theory.

The distinctive feature of the theoretical attitude is the orientation on civilization problems to human society evolution with the special attention to the aspects of strategy and prospects of the development, social ideals, forecasting of the dynamics of the human factor during the Universal world process. Systematized theories from several different areas of knowledge serve as basic data. These theories come from cybernetics, computer science, synergetic, philosophy (both scientific and religious), economics, sociology, psychology, history. Probably, it is difficult to find an area of true knowledge that could not be contributed into the development of innovatics. All the developed theories are based on an axiom: the Universal world process that includes social development is directed on the achievement of several certain, naturally caused purposes of evolution of an individual and a society. The reflection of evolution of purposes of a person and a society in a scientific approach represents priority research area in field of innovatics. As well as any science, it should be based on the concrete methodology deduced on principles of outlook. In our opinion the most adequate outlook should have an evolutionary-ecological oriented character that did not divide universe on its materialistic and idealistic base roughly.

Evaluation-ecological methodology<sup>3</sup> according to the system approach to cognition of the nature of a universe<sup>4</sup> is considered to be a promising approach in the development of natural-science and humanitarian background of innovatics. Within the framework of a modern scientific paradigm formation of the new area of scientific knowledge - innovatics in its humanitarian aspects should be based on methodology of scientizm and antiscentizm (in their dialectic unity), deduced of principles of evolution-ecological outlook with application as nomotetich, and ideographic approaches<sup>5</sup>.

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<sup>3</sup> Ponukalin A.A. Evaluative-ekological methodology of research of the person and society / Prospect of self-organizing of a society in strategy of global development. - Saratov: the Scientific book, 2006. - With. 3 - 12.

<sup>4</sup> Ponukalin A.A. About methodology of knowledge // Bulletin SSTU, 2003. - № 1. - With. 157-165.

<sup>5</sup> Ponukalin A.A. Humanit in a modern society // Prospects of social development during an epoch of collision of civilizations. - Saratov: the Scientific Book, 2007. - With. 3-11.

The society needs deep theoretical and methodological background of innovatics because the globalization of innovative activity in technical area is more important than in humanitarian field. The progress based on profound knowledge of the universe, will proceed to the creation of complex and advanced technologies. The logic of knowledge and creativity pushes the development of the technology. However the achieved level of scientific and technological progress poses a question whether the new technologies are needed and what they are needed for. The more advanced is the technology the more it gets an opportunity to destroy an individual. One-way development can cause then effect of "mechanization" not only of the whole society but also of an individual.

Place of Russia in a modern society and role of the country in the intergovernmental integration nowadays show that the economic science in Russia should take into account all the above-stated circumstances. Therefore concepts in the field of the economic theory are extremely essential today. Obviously it is important to comprehend and systematize actual approaches to the theoretical concepts. That is why the comparative analysis of the two modern economic theories neoclassic and evolution theory namely is very important. R. Nelson presents this analysis in his work<sup>6</sup> and emphasizes the distinctive features of each theory.

Neoclassic theory is still considered to be the main macroeconomic theory. According to neoclassic theory all the changes that occur in economy are already programmed, all the processes are subordinated to a certain pattern which was prepared beforehand and the behavior of the economic process participants meet the requirements of a current situation. Reached decisions are based on the obtained experience and on information confidence thus the economy is a machine with the set of parameters and results of its work. The theory is based on a paradigm of objective necessity of economic cycle dynamics that illustrates the periods of depressions and boom. According to R. Nelson the neoclassic theory gives no explanation to actual reality though the scientific theory should describe reality as the institutional structure of a society changes continuously either by evolution or by revolution. Therefore the new economic theory should be the theory of institutional economy. In the referred main work «The evolution theory of economic changes» he gives some arguments that explain failures of a modern traditional economic science. The modern traditional economic science experiences some linguistic and conceptual isolation: «full isolation of economic science from the related social disciplines».

In particular he mentions that «for several years in psychology, sociology and political science a number of the discoveries were made that are related directly to economics». However, «... the majority of economists does not pay attention», for example, to distinctive features of an individual choice under uncertainty, to the process of decision-making in the organization, to several processes in organization that are caused not only by technology<sup>7</sup>.

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<sup>6</sup> Richard R./Nelson. Economics development from the point of view of evolutionary economic theory\ Globelics-Russia-2007. - Saratov: SSTU, 2007. - With. 90-100.

<sup>7</sup> Richard R. Nelson and Sidney G. Winter. An Evolutionary Theory of Economic Change/ Cambridge University Press. 1990.

«On the other hand experts of other social studies are inclined to look at the economic theory with some hostility as they find it gives fantastic description of reality opposite to their own views. At first glance the alternative theory is more compatible with the achievements of other social studies and is more open for precise definitions and important amendments that come from other disciplines so that this theory could broaden considerably range of knowledge the economists could use» (P. 503). And now concerning interdisciplinary interaction on the basis of the general scientific approach: «Interdisciplinary limits of technical and natural sciences are determined precisely by a concept of multitude of production-possibilities: everything that is on that side of a concept belongs to other disciplines; that on this side belongs to economic science. Without such a wall favorable opportunities of cultural interchange are evident» (P. 504).

Need for a complex analysis of the global civilization processes in economic context is determined particularly by the barest necessity to explain the reasons of the up-coming world economic crisis. The crisis is caused by overinvestment of capital that comes basically to a stock market, but not to the real sector, while there is no place for it in the world, due to overproduction and exhaustion of the consumer market abilities. As result stock-jobbing increase while firms conceal losses. Stocks and shares are sold prosperously and money is no longer an equivalent of productive work.

World economy is probably entering the fifth (according to Kondratjev) phase of an end of the big cycle of its development as it is interpreted in sequence of waves of technical changes by K. Freeman<sup>8</sup>. An up-coming crisis is caused not only by overproduction, but also by some features of neo-liberal economy developed after the previous crisis of 1968 - 1973. Former system that used to exploit the world periphery has exhausted itself - many of the developing countries have followed a pattern of catching up economy by now. If the long depression follows (not necessary) the production decline the coming economic crisis could be long and critical at first. It is related to a point that the rate of common labor can not bring former return.

Crisis will cause a need for structural reorganization of the world economy that in its turn will lead to a change of economic priorities according to the present stage of evolution of a human society. That is why significant technological changes are expected.

Despite the attempt of the world elite not to change anything the changes will occur now not only due to their wish but also due to wish of masses of people all over the world. People have gone through significant changes in their attitudes to a purpose and mode of life not only in the present but also in the future.

The importance of the coming crisis for Russia is that the fifth stage of waves of technical changes assumes "gas - oil" system as the main characteristic of a dominating infrastructure at energy system level (on K. Freeman). This system can turn out unprofitable under conditions of world production decline. It is also worth mentioning that as early as at the end of 19 century there was overinvestment of the world capital and it rushed to Russia. Russia used to be an undeveloped market then. However it

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<sup>8</sup> K. Freeman. Revision of the Schumpetr business - cycles\Globelics-Russia-2007/-Saratov: SSTU, 2007. - With. 3-15.

awoke some revolutionary moods and caused the revolution of 1905, war with Japan and the following events of universal importance (the Second World War, February and October revolutions). The similar analogy of the past and present events generates a need to a deep analysis of the crisis phenomena, their reasons and consequences for our country.

The implementation of these laws should smooth recurring depressions. The law of power cost (A.I. Subetto, 2006, S.Pb.) is vital for Russia. According to this law each product of economic system has its power cost. The power cost depends on several factors, especially on climate and geography. An economic system as a whole also has its power cost. The power cost of goods produced in Russia is several times higher compared to the advanced countries. If we spend three times more energy pro inhabitant then we can possibly hope to achieve the West-European level of socio-economic development. Therefore the economic systems with higher power consumption need cheaper power bases of high-capacity. The Russian innovative development way generates a need to decrease not only power inputs, but also cost of a unit pro power product. Hence for Russia, according to specific character of the Russian civilization, the laws of social and economic development should be defined. The implementation of these laws should smooth recurring depressions.

Economic crisis shock the countries of the advanced capitalism periodically. And it certainly affects negatively life of big masses all over the world. Therefore such crisis are a subject of true concern of the whole international community as they cause unemployment, poverty, social cataclysms and shocks with possible destructive consequences, wars and revolutions. The world economy science tends to explain the reasons for the world depressions and to predict both its origin and scope. That is why fundamental economic theory based on the general scientific approach is needed.

In order to explain crises the modern economy uses theories of business-cycles. Its analysis we find in a work of K. Freeman<sup>9</sup>. According to his point of view one of the leading theories of business cycles of Schumpeter derived from his theory of economic development and growth in capitalist economic systems lacks many attributes. The concept itself is not profound enough and there is a lack of historical prospective. The moving forces and trends, the cyclical fluctuations of economic development in this theory are explained by several difficulties connected with innovation practice. Innovation practices are considered to be acts of "desire", but not of intelligence or history command. The role of innovations in a renovation process turned out to differ according to scale and time of introduction compared to Kondratjev cycles.

K. Freeman opposes to such causality of Schumpeter the causality articulated by K. Marx. His theory of economic changes is derivative from the theory of instability and abuse of position. Both points are caused by capitalist relations. K. Freeman refers to a work of Schumpeter («Capitalism, socialism and democracy») where he blames K. Marx for finding no theoretical explanation of the reasons of crisis. However

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<sup>9</sup> K. Freeman. Revision of the Schumpeter business - cycles\Globelics-Russia-2007/-Saratov: SSTU, 2007. - With. 3-15.

Schumpeter considered him to be one of the first theorists who had recognized and studied a problem of cycles.

The theory of business - cycles of Schumpeter implicitly justify the crisis that occur during the depression. Depression is considered to be the «loss of balance» that in turn requires an explanation why, what for, for whom are they needed. Rebirth from the depression he interprets as recovery of balance. Then a question arises why do we need to loose the balance and to recover it once again? Nevertheless, he finds depression a "useless" and pathological loss of balance that could also be increased by panic. Hence, according to Schumpeter depression is connected with illness of a society and its socio-psychological condition that do not correspond to specific laws of economics. Besides he supposes that balancing tendencies of economy are innate. It is dubious while on such basis the nature of economic crisis mentioned in history could be explained only by laws of cyclic solar activity or by cyclic character of other space processes.

K. Freeman believes that weakness of the given theory occur due to unclear interpretation of an innovation concept. In a modern economy it gets the status of a scientific category. In his theory he postulates the idea that large shocks entail serious social and institutional changes and a new techno economic paradigm as a dominating technological regime is established. Hence such "shocks" are considered to be an original source of economy evolution. According to K. Freeman shocks as crisis of "structural adjustment" are the replacement of chief branches of economy by new leading sectors. During the "transition" period when decrease in production and stagnation occur, the society is characterized by deep structural transformations in economy and such changes cause serious transformations of the institutional base and of social structure.

As R. Nelson points out in his work<sup>10</sup>, Schumpeter insisted that in any historic epoch economic growth is divided into a small set of technologies and industries that lead to economy growth. Thus the economy growth is bounded only with technologies and industries that limit the frameworks of a modern economics. Modern economics as the field of studies is an integral part of picture of social existence during an epoch of post industrialism, postmodern, informatisation and innovatics.

Within the framework of R. Nelson's innovative theory a term «innovative system» is emphasized. As he stresses out this term is used «to capture a wide range of institutions that are involved to support and direct the moving forces and trends of economic development where innovation is a key driving force». Moreover he writes that innovative systems are the scientific direction created specially in order to pay attention to institutional complexity of a modern economy. However, the use of a system concept as regards to economic events means an actual application of the system approach to economic research that in its turn suggests, that economic theory could be based on general scientific methodology background.

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<sup>10</sup> Richard R.Nelson. Economics development from the point of view of evolutionary economic theory\ Globelics-Russia-2007. - Saratov: SSTU, 2007. - With. 90-100.



As B.-A. Lundvall mentions in his work<sup>11</sup> the theory of innovative systems compete directly with the traditional approach in economic science when the question of a state policy development arises. The development strategy concentrated only on the industrial and intellectual capital, in his opinion, is not sustainable while production and effective usage of the intellectual capital depend on social capital during the present era of "learning" economy fundamentally. The research approach is based on a viewpoint that innovative process has an evolution character, depends on historical development and as time goes by the development of innovative systems is generally unpredictable. That is why a system innovative approach was not used to creation of systems.

The theoretical concept of innovative systems (according to works of B. Lundvall, C. Freeman, R. Nelson) define such system as a network where *economically useful knowledge* is produced, distributed and used and new technologies are created, imported, modified and distributed, where innovative activity of national firms is determined. An efficiency of innovative system is caused by depth of interaction of institutes of science, education and finance within the framework of developing strategy of the government and firms on the basis of flexible production specialization<sup>12</sup>. Finally, as one can see from the definition, innovative systems serve the purposes of economy self-development through production stimulated by innovations. Any innovation supposes an improvement of both production and its output. Therefore globalization of innovative activity will be a source and a reason for the development of economy of knowledge and industrial production of high technology goods that satisfy the requirements of a society and an individual. This type of globalization will first of all accelerate scientific and technical progress. That needs to deepen knowledge of nature as material resource that is able to satisfy the requirements of a society and an individual.

Innovative system analysis contemplates understanding how various types of knowledge are created and used during the innovative process. As B. Lundvall believes an attempt to find a connection between innovations and economic growth should not only include radical (according to Schumpeter) and improving (according to Marshall) innovations, but also continuous process of imitation and training (according to Arocena and Sutz). In his opinion *innovation is a result of combination of knowledge from various areas of the specialized innovative system*. According to the theory of innovative economy as an evolution process these matters are vital and that has been used during our work on project of study-research-production of a corporate innovative structure on the basis of technical university.

According to rational way, when one focuses on present and its main features, it is important to stress that innovative way for the development of society is inescapable and thus promising. That assumes fixing the scientific background for realization of

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<sup>11</sup> Bengt-Ake Lundvall. Research of innovative systems: their origin and possible prospects / 2-n the International conference "Globelics- Russia-2007". Materials of conference. - T. 3. - Saratov: SSTU, 2007. - With. 17-39.

<sup>12</sup> Bengt-Ake Lundvall. Research of innovative systems: their origin and possible prospects / 2-n the International conference "Globelics- Russia-2007". Materials of conference. - T. 3. - Saratov: SSTU, 2007. - With. 17-39.

this way. The world economic science studies problems of innovative activity as a system process and has already made an important contribution to the theory of innovatics. During such system process main role is given to training that forms a basis for the new technologies development. The system of production and spread of knowledge is considered to be the major prerequisite of success in economic activities. As leading scientists believe, application of new technologies turns out to be effective within the framework of national and regional innovative systems.

A need for an evolution theory development could be explained by the point that economics receives an institutional character nowadays. Neoclassic theory operates with economy where market tries to counterbalance supply and demand by price control. Functioning of a market as a certain social autonomy is based on monetary theory of M. Friedman. According to this theory intervention of state in economy should be minimal and stabilization of economy should be carried out through regulation of the money supply.

At the same time it is impossible to solve a problem of growth of economy (not its stabilization) and simultaneously a problem of improvement of social welfare without state regulation. Market "balancing" is bound with processes of social development but this is not just an economic attribute. If market "regulates" then comes a question why economics (in neoclassic approach) and not the social and humanitarian sciences determines a trend of evolution of an individual and a society and what serves as criteria of such regulation?

R. Nelson thinks that the newest evolution economic theory is only developing. It considers economics to be a process of changes characterized by some uncertainty. Participants of an economic process are not always informed well enough or do not always understand the situation adequately. It is impossible to predict precisely how the spectrum of economic activity variants will change and that is the moment of uncertainty. Its value for the economy and society in this theory is not explained. The concept of uncertainty in the evolution theory as opposed to a concept of exact estimation in neoclassic theory introduces a problem situation into the structure of economic process. A theory of the problem situation was developed by the Russian psychological school<sup>13</sup> and can be used widely for the development of the newest economic theory.

According to R. Nelson, both theories (neoclassic and evolution) define «rational behavior» differently. Hence, the category of rational should be a mean of economic research. The research of a category rational is made in our work<sup>14</sup> regarding to the process of social development. According to the system analysis of the given category we come to a conclusion, that western society (so called developed countries) from the social - psychological point of view is irrational. Not in the last instance it depends on its orientation on the continuous increase in speed of production and consumption of subjects of mental (secondary and derived from organic) needs. Under

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<sup>13</sup> Ponukalin A. A. Echopsychology of work. - Saratov: SSU, 1995. - 240 with.

<sup>14</sup> Ponukalin A.A. Ideal and strategy of rationality / Strategy and ideals of modern social development. - Saratov: Science, 2008. - With. 3-12.

such circumstances an individual is forced to a machinelike pace of live. Little by little an individual turns into a certain "screw" of the machine that overwhelms and restrains an individual completely. An individual by nature possesses unique quality of freedom of will and its displays according to Frankl make true meaning of life. Under such circumstances an individual is not capable to cope with such thrust temporal environment that is why he finds himself absolutely insignificant and incapable to influence it. Feelings of own nonentity and powerlessness grow in connection with social function and role of an individual in such society. Real conditions of life generate sham, artificiality of life, its irrationality everywhere. Besides the modern western society forms artificial mental needs of the population in order to manage them according to interests of capital increase and that is why an individual is artificial to a certain degree and machinelike. As opposed to collectivist psychology in the USSR for example, the individualist psychology is cultivated on the West. Individualization in its extreme degree promotes strengthening of feelings of loneliness and nonentity that lead to deep mental disorder.

Under such conditions the social environment is seen by an individual as a source of threat that is why he lives in the hostile world and is forced to build life according to self-defense principle. It is important for him to develop mechanisms of self-defense. Several stereotypes of emotional reactions as reply to «social impulses» serve as such mechanisms of self-defense (according to E. Fromm). Three kinds of such protective mechanisms are possible and its display can be considered as mental disorder. One of these mechanisms is the authoritarianism revealed in attempt to domination or subordination that could proceed to sadism and masochism. Hence, genetic preconditions to sadism and masochism are strengthened and actualized in consumer society. Other mechanism – destructivism reveals itself in uncontrollable tendency to destruction of environment that allows to compensate a feeling of own weakness. On such basis culture of destruction is created. Any piece of art contains samples of such culture (it is enough to watch any movie for the mass audience).

Finally, the automatic conformism that allows to master the "sample" of an individual needed by a society and thus to try to overcome feeling of weakness of an individualist. However, at the same time a person betrays his/her own "self" and becomes rather an irrational being.

In order to explain such reality E. Fromm has developed a theory. According to that theory an individual is an irrational animal by nature whose mind is supposed to harass him by unconscious and so by irrational impulse. As people are irrational beings, neurotics with impulsive obsessions, they are sick mentally, i.e. they are psychopaths. Hence the whole society is also sick and neurotic that is why in such society processes of rational character are hardly possible. An accepted way of life - chase for pleasures that is accompanied by fears that come from unachieved promotes neurotization of societies.

Thus the Western society is irrational in socio-psychological aspect but is rational in the industrial and production aspect. Therefore in such society a contradiction between irrationality of a spiritual life and rationality of a material life exists. That generates a conflict that could not be solved within the framework of the

accepted purpose of life determined as consumption. Rationalism forms the basis of mass consciousness in a society that is sound socially as masses live according to the idea of rationalism. This idea is probably inborn and is an attribute of norm of population representing itself as ideologness of an individual. However, rationalism as the public theory is relative. Those who determine a state policy could confirm it to certain groups. There is a certain danger that we can reach the vulgar rationalism. That is why a scientific problem to prove an opportunity of rationalization of a modern society arises. The required decision is bind with the necessity of finding the theory of rationalism - irrationalism on the basis of the adequate world outlook system that determines the methodology of research and practice, valuable to achieve the purposes of evolution of a person and the society.

Rationalism in politics cannot be vulgar, reflecting one-sided approach to rationality criteria, articulated for example, in K. Popper's theory (1992). He believed that it is impossible to include other guiding lines except intellectual (considered by him as rational bases) into decision-making. When one mentions intellectual decisions (that are considered to be a result of intellectual scientific activity) any appeals to any values are immoral. At this point «immoral» means a priority of any "other" value - faith, class interest, advantage of a moment, etc. As we introduce a category "immoral" into explanation of rationality concept it automatically means separation of moral from rational.

As result an individual is neglected by the categorical apparatus and a scientific problem of rational-irrational in an individual is also neglected. Due to K. Popper a theory of rationality would become baseless; when set in aprioristic structures of knowledge of a person the Newton picture of the world in his new model turned out to be only a hypothesis and not a priori knowledge. However it is important to mention that rationality of Newton dynamics as basic theory of a classical science is reflected in structure and functions of a physical body of an individual. From this point of view rationalism of this theory represents vital value for people.

Let's come to psychological structure of decision-making<sup>15</sup> (as the criteria feature in the theory of K. Popper), subjective dimension and evaluation. The system description of mental function of decision-making is based on subjective dimension and evaluation.

Value of this function in the analysis of the specific features of managing activity of a person is revealed in a context of B.F. Lomov's opinion<sup>16</sup> that decision-making penetrates into all the elements of activity: aim setting, processing of information, choice of action, formation of programs of actions, etc. On the whole decision-making analysis is an analysis of a main stage of managing activity on the basis of the system approach, an analysis of a specific function of a purposeful system. Decision-making accumulates all the existing features of mentality of an individual and is the process that reveals them. Such process in its turn could be described by

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<sup>15</sup> Ponukalin A. A. Subjective measurement, an estimation and psychological structure of decide \Theory, methodology and practice of system researches. - M., 1984. - With. 52-53.

<sup>16</sup> Lomov B.F. Mathematics and psychology in studying decision-making processes. - In book: Normative and descriptive models of decision-making. - M.: the Science, 1981.

terms of practically all known mental phenomena. In this sense a problem of « ... how various elementary mental functions, elements of mental processes are incorporated for the decision of a specific problem, in order to regulate some specific activity<sup>17</sup> » is urgent.

The description of a system of managing activity that results on decision-making under conditions of a problem situation is based on system approach. The principles of this approach we deduced on the basis of V.P. Kuzmin's work<sup>18</sup>. On this basis experimental research of the activity features, for example, heads of middle management of the industrial enterprise, flying schools entrants and cadets, together with representatives of other trades have revealed plural interrelations and correlation of mental functions of dimension and evaluation; strategy and tactics of the decision-making; contents and features of problem situations and tasks; characteristic of the various individual features. Several interrelations are found e.g. relations between the peculiarities of the process of decision-making, of dimension and evaluation functions of mind. On the basis of such processes subjective probabilistic forecasting is carried out. The role and place of evaluation function of mind in this process and dependence of its features on subjective values, forecasts of relations of "encouragement - punishment" are determined.

Hence rationalism is a human concept and so, rationality has a valuable character, as well as everything that is connected with an individual. Rationalism in the theory of its founder R. Descartes was also considered as a universal method of knowledge, i.e. knowledge is something that is rational. Thus mind and consciousness are connected with rationalism that is inseparable from practice based on criteria of value (advantage - harm). According to R. Descartes knowledge should be based on directly obvious data, on spontaneous intuition. Knowledge should come out of «intuition» by a method of a logical reasoning. However intuition is an area of unconscious that can not be under mind control, and in this area logic and knowledge have no vital importance as a mean of knowledge. In fact the philosophical theory of rationalism is based actually on psychological categories. It has articulated actuality of development of knowledge theory. Criteria of rationality in economic theories should grow from the peculiarities of human nature, as an individual cognizes himself and the world during the development of the universal process.

A history of a human society knows two ways of evolution - rational (transformations of objective reality) and irrational (transformations of subjective reality)<sup>19</sup>. An individual gets by nature ability and mechanisms of irrational being that give him either one subjective value and existential advantage or another. Hence, the irrational way is as appropriate as rational. The rational way of evolution of a society in the long term should inherit the achievements of an epoch of industrial and production development. This happens only under conditions that an individual should

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<sup>17</sup> Zabrodin J. M. About levels of consideration psychic reality\The problems psychologies of subjective judgements and estimations. - Saratov: SSU, 1984.

<sup>18</sup> Kuzmin V.P. The principle systemness in the theory and K. Marx's methodology. \_ M., 1980.

<sup>19</sup> Ponukalin A. A. About possible ways of evolution society / Evolution of the person and a society. Scientific problems. - Saratov: SSTU, 2000. - With. 9-14.

become a main priority as an object and the subject of evolution, as its purpose and its result. In this regard it is reasonable to be oriented on opportunities of social design as an institute of individual self-control of the society development.

The point is that the developed objective reality that is independent from people desires is not adequate to human nature and as a matter of fact unecological according to the multiple-factor and multivariate theory of ecology. Modern society is unecological and its prospects are determined by costs of regulation of evolutionary processes that are carried out by nature as if it bears the responsibility for the future of an individual. However an individual has a feeling of responsibility and during the realization of this feeling by the whole mankind it has the right and possibility to define its destiny independently oriented on the rational - irrational values accepted by a society. That means that little by little individual receives an opportunity of evolutionary process regulation and he accepts responsibility for the appropriateness of the decisions that determine his present and future. Nature exhausts its opportunities to manage the development of a civilization by means of reproduction of stable laws of existence, global constants and rigid logic principles. A multi alternativeness of evolution ways of individual arises and that generates a need to ground a choice and develop the projects that provide stability of the development and a prospect that allows a person to remain a Person and keep his personality.

Thus the current status of a modern society is characterized by uncertainty of an alternative development ways as nowadays instability of socio-economic processes in the world reaches its critical threshold behind that safety of vital activity of a person and a possibility of onto-evolution become problematic.

The recent situation shows, that the main trends of socio-economic development determined historically by the world community are those that create conditions for drastic decline of moral regulation level of public processes. As result we can face possible moral degeneration that will be followed by mental involution and, finally, the biological degradation that can possibly get the "epidemic" character.

Similar prognostic reliable feature of the dynamics of human society, that in its turn is carrying out a modern paradigm of life, form the basis of the analysis and development of scientifically proved and moral focused projects of development of an Individual and Society. Similar projects require the scientific knowledge that generalizes empirism, phenomenology, theories of evolution of an Individual and Society. It is important to know natural purpose of the existence of an individual, an essence of his spiritual and moral basis, limits of physical and intellectual opportunities, prospects and ways of development of a person in social environment adequate to his nature and purpose. An intergovernmental program of scientific research that forms a system of the existing and new directions of problem studying of evolution of an individual and society at levels of methodology, the theory and practice is needed. An estimation of a modern position of postindustrial society of the advanced countries is based on point that a basis of an industrial and production way of its existence is the private capital that has no quantitative restrictions. That determines the specificity of mass psychology in such society according to a certain law: the size of income but not its mean influences individual character strongly. That means that there

is no restriction of an income mean and the remorse could not affect a choice of an individual. Hence a tendency to an income increase does not exclude any even the most immoral means and that influences the moral background of a society. Historically money-lending was a source of an individual capital. It received a form of profit of distress and misfortune of others, redistribution of labor and its results between working man and capital owner who is parasitizing on him. A modern bank system that accumulates capital is a refined form of large-scale money-lending while the main part of the population as producer of material benefits has to give an equivalent of part of labor. Under such conditions the social environment becomes a source of threat for an individual and his life is based on protection principle that leads to frontal neurotization of the society.

So the modern consumer society creates an irrational plan of the existence of an individual where he tries to find an opportunity to escape from rational press, tortures and sufferings. The progressing dynamics of an industrial and production rational way of evolution of a society is characterized by generation of symptoms of spiritual irrational way which compensates psychological costs of development of a consumer society. Thus the irrational way is a subjective reality and it represents natural reaction of mind to recycling of an individual by an artificial world that was created by him.

During the transition period (from post industrialization to informatization) a level of the development of science, technology, production, cooperation (in frames of the globalization of a society) has reached a point where any technical task could be in principle solved within the limits of corresponding utilization of resources of a global society. However, it is necessary to mention, that technical devices should be created not according to the potential of technics, but by needs of an individual that reflect his nature that demands designing of the future. Hence, to know, what kind of technics we need, what are we ready to spend the resources of a society for, a perspective dynamics of needs of individuals and societies should be known. That is possible only on the basis of forecasting of the development of an individual and society that occur according to both objective, and subjective factors, regulators of social being. During the forecast we receive information from the future and on its basis we build models of such future. Thus a main general scientific problem of the present is a problem of evolution of an individual and society. A society faces a question - what way do we have to follow from the development of technics point of view? Management of the scientific and technical development on the basis of an anthropocentric approach is needed. It is important to understand what is the new technics created for: to increase the profit or to satisfy individual needs of a person? Therefore for the scientific and technical progress management evolutionary-ecological laws of development of needs of an individual, of society, of the whole civilization are needed.

Modern knowledge of an individual and society enables to raise a problem of creation of actual technical devices for a society, in view of prospects of its development. The future of a civilization not in the last instance depends from the dynamics of needs according to their qualitative and quantitative contents. Nowadays processes of generation of artificial needs (secondary mental) in mass consciousness prevail in the advanced countries. The subjects of satisfaction of such needs fairly are

not necessary for an individual. A problem of interrelation of knowledge, education, and manufacture in a context of prospects of development of a human civilization arises.

A problem of the civilization criteria choice of the industry development based on scientific and technical progress arises. It is a problem of the relationship of the prospects between an individual and technics. The decision of such problem could be seen in submission of STP process to definite purposes (humanistic ones), connected with an individual prospect. A scientific problem of an individual in a context of evolution of the individual and society is brought to the forefront. It is important to manage a process of globalization of innovative activity as industrialization has generated nowadays conditions for drastic decrease in a level of moral regulation of public processes and it should lead anyhow to moral degeneration and involution of the mankind.

Our analysis of the existing theoretical background<sup>20</sup> allows to come to several conclusions: 1) opposed to any other science that develops laws of an objective reality strong methodological basis does not exist in economic science; 2) practically all the existing laws in economics are more likely psychological by nature and its alienation from a person enables to understand economics as some self-sufficient independent existing area where a person or a society could be included «by chance». What are the economic laws that cause recessions and recovery, development of the global economy as a whole? Do they exist as only economic ones independent from people and society?

Economics itself exists only due to the existence of the human society that makes subjects of its needs and consumes them in order to create the new ones. Many economists who develop the theories of economic processes turn to human nature that explains the present, the past and the possible future in economics.

So, J. Keynes gives the psychological characteristic of a society deduced from "propensity to consume". Such "propensity" is derivative from features of a human mind, but due to it the "consumption society" turns out to be of great vitality. That means that the psychological law (as income grows people increase the consumption) forms an economic basis of life of a society. An "economic" aspect of this psychological law is expressed by indirect proportionality between the dynamics of income and consumption, and this aspect has, in its turn, the psycho-physiological nature.

Consumption is left behind the income as an individual gets used to a certain standard of living and it is also straight psychology as the saving motive opposes to a motive of consumption. When sufficient (according to an individual) standard of well-being is provided there is a tendency to save means for force majeure by eliminating the expenses. People think that future value of property will undoubtedly increase in the future and earning possibilities could decline whereas the consumption will increase. Money is kept in order to guarantee money reserve needed for incidental changes of the commercial situation; in case of unexpected prospects of the good bargain; in order to keep property which value is fixed in money to cover the following liabilities.

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<sup>20</sup> Ponukalin A.A. .Socioeconomics psychology of the market. - Saratov: Russian Academy of Science, 1995. - 67 with.



J. Keynes also believed that tendency to independence eliminates the expenditures (that is caused only by nature of an individual, but not by economics). In view of this nature people are inclined to enrich themselves by commercial operations that bring profits from capital investments (such opportunity depends on different economic systems) but not from the results of the productive work. It is one of the reasons for the inflation that is generated by features of mass consciousness in conditions of a certain economic system. Well-being of a manufacturer depends on psychology of the consumer and not on the economic laws that in fact appear to be psychological as a mass consumer is the global investor. The same investments, however, as well as others, are no longer based on objective laws, but are influenced by the conventionalities that are accepted due to exchange manipulations under market relations and elements when prognostic estimations of commercial features of new production and investments are needed.

The majority of people are not experts in the field of production, wheeler-dealer finance and other details of economic life. So far the dynamics of investments is determined mainly by changing of the optimistic and pessimistic moods that are influenced by incompetent or provocative opinions. Orientation of a businessman on innovations could only be a result of his cheerfulness that is aimed at reaching the desirable. That influences the decision-making and forces businessman not to sit around twiddling his thumbs, but to begin to work and to realize such mood. The arisen hopes for profit could be groundless. As cheerfulness fades, the fears of losses arise. Such fears could also be groundless. It means that decisions are made by chance and depend on psychology of a businessman mainly. Therefore the investments depend on spontaneous activity (casual or provoked as necessary) and the experts in the field of investments could not rely on objective laws.

Hence during an analysis and evaluation of capital investments dynamics it is important to take into account not only the objective laws, but everything, that influences the mood and behavior of people. It is important to know the real psychology of individuals, features of mass consciousness.

The psychology of individual capital distribution which is characterized by unwillingness to leave an opportunity to supervise his/her own savings directly is extremely important. Money is left in cash in order to wait till the best state of the market and to provide the current transactions. The reason is an uncertainty of an interest rate which in its turn is developed according to mass psychology. For real economy actions of people concerned with money are extremely important as they serve as the most evident external display of their intentions in economic activities. Intentions are derivative from the individual motives that induce regardless of consciousness and will to carry out behavior and activity.

First of all, a motive of movement of money that depends on an income size and duration of period from income receipt up to its expenditure matters. Such period is a period when an individual longs to have cash for business management till he gets profit. Simultaneously with money movement motive a motive of precaution, together with speculative motive exists. The greatest values have such motivations as: a tendency to a diversity (an inborn need for interchange and an effect of satiety lay in its

basis); a tendency to draw attention to oneself (a psycho-physiological fundamental need for the superiority lays in its basis); desire for recognition (a need for self-affirmation and recognition).

Motivational displays of an individual in economic activities obey to fundamental biological laws of saturable needs (that get the psychological forms in a process of socialization of an individual): subjective profitability of an object (as an experienced pleasure or a feeling of benefit) is proportional to the logarithm of a stock of such object. The saturability influences an object price (price of goods): if a need is saturated, the price is lower and vice versa. Therefore the price does not reflect the cost of goods that express the quantity of the needed socially useful labor. Money, finally, are no longer an equivalent of labor in market conditions and uncontrolled mass psychology, that determine a scale of demand as the list of prices, which buyers are ready to pay for a certain quantity of goods. The psychology of a buyer appears in the subjective law of demand: by reduction of price (i.e. increase of losses of a manufacturer) the quantity of the goods of high demand grows, and on the other hand the quantity falls as the price increases. Such law is characteristic for an unorganized mass of people under conditions of market competition.

Disturbance of balance between the price of goods and its cost occurs in a situation of a sudden change of the quantity of goods when stagnancy of buyer's psychology does not allow switching over to new goods immediately. That is used by merchandiser in his selfish ends. This point is based on an effect of "elasticity" of needs, connected with the dynamics of human desires.

«Elasticity» characterizes a demand not for the basic consumer goods, but for ones that have different functions and are used for different purposes.

Thus, supply and demand are not equal on the market, that is why supply tries to manage the demand when fluctuations of market are taken into account in order to get the highest possible profit where not only work, but also anomalies of mental displays of the big masses of people are included. Such anomalies that influence economics are: estimation of the postponed pleasure from consumption, patience and self-control, value of purposes of a product usage, pleasure of a feeling of property, and pleasure of property for the sake of prestige, ability to save, prescience, adequacy of the future concept, etc., i.e. everything that is irrational.

Psychological laws of economy are formulated by A. Marshall as the quantitative ratio that establish correlations: between the sum of money for which an individual is ready to perform tiresome work, and a measure of readiness to overcome burden of labor; between the sum of the money spent on satisfaction from a purchased product, and the size of the inducing forces, that make us purchase this product. Such statements give an opportunity to measure psychological constructs that determine economic behavior of an individual in monetary units and then the economy becomes a humanistic science based on mathematical psychological models that operate with economic units of measurement.

Vitality of a market as a system of self-regulation is determined by several constants - economic, legal, social, psychological, political, and cultural on its basis so-called laws of the market are build. Constants are defined by the peculiarities of a

socio-psychological atmosphere of a society that in its turn is developed under influence of the way of life and its sense accepted in a society. Hence, the market laws that reflect social essence of life, are based on psychology and will be the more stable, the more stable mass psychology is. As a whole, all economic laws of capitalism are relatively stable socio - psychological laws that describe the given social structure and determine behavior of an individual in economic space in general and in economic situations, in particular. Hence, the knowledge of psychology of such behavior of individuals that could help to predict this behavior, to forecast consequences and influence on economic processes is needed in economy. Therefore state regulation of market with an aim to keep a certain level of stability, and to avoid recession, is focused on psychological regulation of subjects of the market (mass consciousness).

In reality due to such regulation, due to national traditions, public relations, and specific character of market a certain economic type of a person is formed. An economic status of an individual in a modern society is diverse. That is a manufacturer of goods and its consumer, the owner of the values equivalent to labor, with its constant and variable components. Stable market features are those that there is a surplus of labor results which are provided with finance, goods and products. Due to this point there is a possibility to feel economy with surpluses (capital) in order to support and develop the economy. Therefore market is viable only due to investments into economy made by masses, and by large capital. Each person creates and spends the finance, acts as an investor, supports economic space as industrial, financial, labor, etc. potentials at a certain level, that helps to realize an accepted way of life in a society. Possibilities of transformation of investments into profits but not the real needs of people serve as main stimulus of production development on the basis of entrepreneurship. Thus a businessman cares for the profit only. Investment appears to be dependent from irrationality no less (and probably, even more), than from rationality.

How the balance between supply and demand is established? The matter is that a leading trend of a capitalist society is a continuous growth of goods that satisfy (at a stage of industrialism) organic needs of an individual - unavoidable needs of his existence (according to definition of A.N. Leontjev). At a stage of post industrialism the growing numbers of goods serve for satisfaction of mental needs already (secondary, derivative from organic according to definition of A.N. Leontjev). In contrast to organic mental needs could be managed (according to J. Galbraith). As the growth of mental needs is unlimited management of the whole society is also possible. Mental needs as secondary ones could be various, that is why one could create unlimited quantity of goods that satisfy such needs. As mental needs are boundless, the growth of number of goods is also unlimited.

The capitalist society satisfies organic needs of the population, but constantly growing number of goods offered to the consumer, translates a way of life of the mass individual on a level of mental needs (their objects can not only be material, but also ideal). The more and the better organic needs are satisfied (and the satisfaction is stable enough in the future) the more opportunities to manage the behavior of an individual in sphere of material life through mental needs exist. When organic needs are satisfied

sufficiently, an individual climbs to other standard of living connected with the realization of mental needs. Creation of consumer goods abundance allows forming artificial needs in order to manage economic and social behavior effectively in favor to increase the capital. Society creates the mentality of an individual in order to manage the behavior of an individual through formed qualities of mentality.

Formation of artificial needs transfers human life into artificial life. Artificial needs are an attribute and quality of an artificial world. These are mechanisms of strengthening of the dependence of an individual from the artificial world he created and programming its development as an appendage of our world. Thus capitalist manufacture produce consumer goods not to satisfy the daily wants of people, but to manage them (according to the interests of the capital) and thus it supports own existence and creates its own social environment which should meet the requirements of efficiency of a mass person management.

Management of needs has some common sense: to decrease risk of new goods launch that normally needs significant capital investments (therefore before one launches goods, one should generate a need for it). If the capital is enclosed into production of new goods, and the goods are not sold, manufacture is bankrupt. That means, when one launches new goods, one should be sure, that the goods will be sold for fixed prices during a certain time period. Enterprises could not survive if they do not launch new products due to several features of capitalist system of economy. When selling goods, it is important to create a need for its mass purchase, and masses should have the financial funds needed for purchase. Hence, a society should be extremely stable in economic sense (stable wages and absence of unpredicted inflation). In order to lower risk, it is important to generate a need to purchase those goods which the firm is capable to produce according to its opportunities. Individual needs always excel these opportunities due to influence of mass-media as a mean of propaganda of consumption ideal.

Hence, it's clear that the basis of existence and material welfare of a capitalist society is a global process and state of a society – consumption. Without the consumption society is unable to exist. The capitalist society exists by consumption. Advanced consumption growth can cause a world crisis if the inequality in world consumption will not be liquidated. Therefore its well-being is determined by the efficiency of device of belief, suggestion, compulsion, that provides mass consumption. Well-being of a society is determined by efficiency management of mass psychology of an individual which is carried out by means of action of belief, suggestions and compulsions mechanisms. In fact they provide mass consumption. That's why postindustrial society transforms into information society.

Main purpose of the device to form stable directions (even reflex) of general opinion, deliberate belief, behavioral programs, mastering the idea of absolute value of consumption. Value is a highest level of regulation of an individual activity. Values generate the vital purposes and cause meaning of life of a mass person, in this case, - consumption which replaces the God as a moral ideal. An idea of absolute value of consumption forms a basis of meaning of life - to consume by satisfying growing needs. That's why the psychological base for the whole society is created. On such

basis, supported by the state, advertising of manufacturers focused on psychological laws is created. The purpose of advertising is to support opinion of consumption as an absolute value.

A main psychological law is a tendency of a person to predominate by purchasing a new and so prestigious product (satisfaction of one of basic mental needs – for superiority). An atmosphere of illusion that everything new is a useful and necessary improvement is created. By buying new an individual sees an improved, developed self. In order to get new identities which actually are not perceptible, an individual is ready to work with the increased forces and energy, promoting thus the production development. Getting "phantom" goods due to more intensive work, experiencing success which is function from the energy spent on labor, an individual exhausts himself but develops production. Finally an individual lives for the sake of illusions which are dictated to him by manufacturer. That causes an illusiveness of such society. That is opposed to natural psychology of an individual - to work as much as needed to maintain a sufficient consumption level, and to devote prime time to leisure, rest, entertainments. Natural psychology characterizes a person who, having reached a certain threshold of consumption, starts to live for the sake of other values. They turn out to be as significant as high-intensity labor. There is a psychological stratification of a society according to artificial and natural psychology feature. Therefore the capitalist society tends to develop intensive work motives, by inventing ways of overcoming inclinations of people constraining labor efforts and enthusiasm, restricting consumer purposes. In order to form the required motives of labor the necessary public opinion is created.

By means of art a stereotype of social behavior, public relations, of an individual is created. They are approved generally and thus serve as models for imitation and mastering. The stereotype of an individual turns out to be a certain model for imitation and as a standard receives general approval. These stereotypes are understood and reproduced by masses. People find self-improvement suspicious and consider it as an attribute of asocial if a person does not chase for income. Compensation of reference model reproduction is moral encouragement of a society (social acceptability of a person as a member of society). It seems that society is unique and that generates confidence of reliability of its existence. The similar mass psychology becomes an obstacle on evolution development way of a society. Its basic source is the subject of professional work, an individual focused on self-improvement and social development. That is why it is necessary to reach a high level of innovative consciousness.

Formation of innovative consciousness is possible as a result of the scaled action of social institute of propaganda directed on approval of new social values, focused on an innovative ideal.

Thus an innovative - creative orientation of a way of life starts corresponding to meaning and valuable orientations of «an innovative person» that tends to achieve socially normalized and approved vital purposes. As a result of propaganda an idea of an innovation as the supreme social value that determines meaning of life will be learned. According to that it is important to establish principles of a community, criteria of choice of life purposes. Only in this case it is possible to speak about a

socio-psychological atmosphere in a society that induces experts of various areas of public practice to achieve the supreme results in innovative activity. Such atmosphere reflected in public consciousness, generates motives of mastering of means and mechanisms of innovative activity that causes necessity of change of a paradigm of vocational education.

Under conditions of increase of share of the automated manufacture modern highly specialized labor has led to necessity to create the socio-technical systems adequate to industrial tasks. Self-management of social development is effective if it is built on the basis of socio-technical design that allows to inherit the achievements of an industrial and production epoch and to satisfy a place and a role of an individual in nature according to a modern paradigm.

Socio-technical (inheriting engineering-psychological and socio-psychological) design focused on the requirements of evolution of an individual and society grows into a source of the perspective technical developments that serve to such purposes. As result the world will be build as a socio-technical system where a person simultaneously acts as an object and the subject of management. Any technical invention finally serves not to the abstract nature, but to concrete people. Therefore technical devices are not created spontaneously (in order to search its possible application later as it is done now) for the sake of these devices. They always serve as continuation of ideas, plans and imaginations of an individual. Each development turns out to be a result of materialization of mental activity of its author and through it other people join a private world of the founder, mastering the creative origin of human activity.

Laws of psycho sociology and socio psychology that reflect interference of person and society serve as starting moment of socio-technical design. A choice of perspective directions of design is caused by aspiration of an individual to live in his desirable world, being rather material independent. That is provided by technology acting as a mean and an instrument of realization of individual plans. Modern psychology interprets its essence from the point that each person in his life is guided by a vaguely understood ultimate goal of a life - continuous and if possible unlimited perfection (growth). On his way to such purpose an individual cares (according to A. Adler) about adaptability, safety, balance and integrity. Within such limits, induced by an existential need, an individual chooses his course of life, way of life and its purpose. The true meaning of life of an individual in a society (as an ideal) is unachievable and consequently the whole real life is the solving of public problems, struggle for an opportunity to realize sense of life. That is why a purpose of socio-technical design is to help to find a decision of social problems that have a valuable status for an individual.

That is why socio-technical design serves as a basis of existence and development of a society. It assumes not only the development of problems of evolution of a society, but also of an individual in his major biosocial characteristics. Socio-technical design is based on a model of a society of the future and is oriented on creation of an end product, which serves to evolution of an individual and society. Technology transfers into a mean to provide ecological conditions of life of an

individual, his cognitive, communicative and regulating perfection, development of laws of physical, biological and social nature in its system structure and displays (according B.F. Lomov). There is an opportunity of development of irrational forms of life in positive sense when a tendency to be independent from material world and its rigid laws is realized.

An innovative way of development of society assumes creation of conditions for its realization - formation of the scientifically-grounded national innovative system. It is necessary to place among conditions, first of all, an adequate environment where it is possible to solve a given problem. Such environment should be named innovative according to its major characteristics that promote realization of an innovative policy. A problem of formation of an environment adequate to innovative politics is based on the development of creation of regional innovative systems as subsystems of a national innovative system. Development of national innovative system is the process of design based on interdisciplinary knowledge. Its basis is formed by a new science - innovatics, which develops one of its major theoretical problems – to determine a national innovative system project.

Such determination should take into account a circumstance that cognition and knowledge become not only economic categories, but what is also important, moral categories. Behind a threshold of knowledge of a structure of the microphysical world a mental world is found out<sup>21</sup>, and it is already a problem of a soul with its intellectual and moral bases. On this background the national innovative system as a socio-technical system with its value and functions, place and role in development of the world community should be build. Not just politics, economists, production workers, philosophers, technicians, physics or even mathematics should carry out the development of the project. Such work must be coordinated at an inter subject level of knowledge and practice by a multi-task personnel, that actually exist already within the framework of international network "GLOBELICS ". According to recommendation of the 5-th International conference "GLOBELICS" a branch of the network "GLOBELICS " is going to be created in Russia.

It is especially important to stress the role of organization "GLOBELICS " for both our Saratov area and the Saratov technical university (SSTU). For several years already the Saratov technical university has been engaged in the development of scientific-practical background for the creation of study-scientific- innovative complexes on the basis of high schools<sup>22</sup> and the centers of innovative activity on the basis of techno parks<sup>23</sup>. During these years a multi-task personnel was created. Such work must be coordinated at an inter subject level of knowledge and practice, that exists already within the framework of international network "GLOBELICS ". According to recommendation of the 5-th International conference "GLOBELICS" a

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<sup>21</sup> Ponukalin A.A. Humankind: the prospective directions of researches // the Bulletin of the Saratov state technical university, - №1, 2004. - With. 137-150.

<sup>22</sup> V.R.Atojan, J.V.Chebotarevsky, N.V.Kazakova, etc. Transformation of the Russian universities in study-scientific-innovative complexes. - Saratov: SSTU, 2001. - 415 with.

<sup>23</sup> V.R.Atojan, A.A.Koval, V.J.Tyurin, etc. High school technopark as base structure of innovative activity of region. - Saratov: SSTU, 2001. - 125 with.

branch of the network "GLOBELICS " is going to be created in Russia. We do hope that the future cooperation will be fruitful for the interests of the whole international scientific community. As result of this work and of work of conference "GLOBELICS" in Saratov a concept of development of innovative activity in SSTU has been created. The declared strategy of development of SSTU as an innovative university assumes the development of new theoretical positions concerning technical universities with their purpose and role in formation of a modern socio-economic, industrial and production way in the country. A paradigm of management of research activity of a university when a university can sell only such product, technology or service that his scientists had created without taking into account a market demand for such product, has exhausted itself completely. A role of marketing, a possibility to take into account quick and sharp changes in the environment, demand of consumers and the market demands should be strengthened. It is important to adapt university management to new tasks, new high technology products that are demanded on the market, technologies and services. All these features represent attributes of strategic management of a self-organizing system.

The criteria factor of innovative activity at the university should be an educational specialty, and that means, that the main element of a university is a graduate chair. It acts as main structural unit of a study-research-production innovative complex. The graduate chair should be capable to predict evolution of a corresponding specialty and to influence a labor market actively by using the interdependence of production on scientific-practical developments and educational opportunities. An active position of a chair in relation to a region is dictated by a tendency to self-preservation that is possible under the continuous development of the chair. The graduate chair organizes and carries out a profile innovative cycle within the framework of educational, scientific and industrial activity. The point is that science, itself, can not survive outside of the production sphere and that means, that development of manufacture is also a main task of SSTU. Its decision influences the well-being and prospects of SSTU. It is essentially important, that manufacture is the main customer and the consumer of «educational production» of SSTU.

To find a decision to these problems SSTU has to take an active position in relation to an environment in order to form it according to its own interests. There is need to create a Center of innovatics (CI) on the basis of SSTU with the purpose to transform a sphere of regional business into a regional innovative system. Scientific activity of the CI should be directed on development of general scientific bases of innovatics as a new integral science. Practical activities of the CI are directed on the development of large high technology projects on the regional and national level, with the purpose to gain and keep the whole sectors of market of hi-tech production.

Ideology of the CI is developed on the basis of results of activity of a scientific nucleus. All the other elements of the future innovative corporate structure - engineering, industrial, financial, educational, etc. are concentrated around this nucleus. As an organizing structure of such scientific nucleus acts the specialized body of strategic management of corporation that has the functional working divisions. Council of scientists of strategic management integrates and coordinates work of



general educational chairs (with their scientific infrastructures): chairs of natural sciences (physics, mathematics, mechanics, chemistry) and chairs of the humanities (philosophy, sociology, psychology, history, cultural science) in sphere of the analysis of global tendencies and concentration of new knowledge of universe laws. The main functions of strategic planning and management: the diagnosis, the forecast, regulation in spheres of science, education, manufacture.

Regional innovative systems can be complex according to the region's possibilities, but they can also be one-field. The regional innovative system has a task of corporate integration of all spheres of production, science, education, business and authority of region to provide the development and introduction of the "breaking" technologies. Such system should have its own center of regulation of the inside and outside processes, if the system is well organized. A socio-psychological condition of such organization is "common work" that serves as a stimulus of highly productive activity of all components of a system. The system structure of corporation assumes integration of functional structures in order to increase the productivity of a whole system in frameworks of "common work". The regional innovative system should solve a problem of rationalization of all spheres of social being, meaning accelerated processes of globalization in the modern world and developing methods of management in the country.

According to our opinion, one of the major trends of the scientific research of our scientists is the development of the theory of evolution economy. Theoretical and methodological development should be oriented on a paradigm of innovative society in aspects of the humanities. That is urgent for modern Russia. It has an inter-disciplinary character with general scientific direction of research as it is based on knowledge of universal laws and world order. From this point of view it is important to formulate actual theoretical and methodological problems. The decision of these problems within the framework of different sciences could bring in a certain contribution into development of ideas of evolution economy. For philosophy a problem of laws of evolution of an individual and society, prospects and strategy of evolution-ecological development of the world community is important. For sociology development of a problem of an ideal of rationalism in formation of an innovative society at the present stage of its evolution is vital. For psychology a problem of nature of human mentality and mass consciousness in a context of evolution and historical processes is important. Economics as a field of knowledge should be its own reflexion, that allows creating economic means to decide the evolution-environmental problems of a modern society. A problem of human resource development in order to increase human potential and to transform it into the human capital as quality of a person that must be specially formed on the basis of mass consciousness in a modern society should become one of the key problems of evolution economy. Economics as a science and practice should lead to humanization of a society in order to improve its vitality.

To sum up we would like to thank an organization "GLOBELICS " for an active support of our field of scientific research on an international level. We do hope that the future cooperation will be fruitful for the whole international scientific community.